Application No. 09/766,439 - Filed: January 19, 2001
Betros et al.
Response to Office Action and Request for Reconsideration

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application. Added text is indicated by underlining, and deleted text is indicated by strikethrough.

1.   (Previously presented) A method for enabling two-way asynchronous communication between a client and a web server to occur using a single HTTP transaction, the method comprising:

opening, by the client, one socket connection to the web server;

communicating an HTTP request from the client to the web server over the one socket connection as part of the single HTTP transaction, wherein the HTTP request is a request for the web server to initialize a CGI that operates within or in conjunction with the web server;

initializing, by the web server, the CGI after receiving the HTTP request from the client;

executing, by the CGI after the CGI has been initialized, operations to enable the two-way asynchronous communication between the client and the web server to occur over the one socket connection and wholly within the single HTTP transaction until the CGI operations are terminated by the client or the CGI; and

closing, by the web server, the one socket connection after the CGI operations have been terminated;

wherein the two-way asynchronous communication between the client and the web server over the one socket connection and wholly within the single HTTP transaction allows for sending of particular information from the web server to the client and for sending of information from the client to the web server; said particular information and said information being communicated in a protocol other than HTTP; and

wherein the web server is able to send the particular information to the client without receiving a request from the client for the particular information.

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2.   (Original) The method of claim 1, wherein executing operations includes receiving and processing data from the client.

3.   (Original) The method of claim 2, wherein the data is compliant with the HTTP protocol or a protocol other than HTTP.

4.   (Original) The method of claim 1, wherein executing operations includes creating and communicating data from the CGI to the client.

5.   (Original) The method of claim 4, wherein the data is compliant with the HTTP protocol or a protocol other than HTTP.

6.   (Original) The method of claim I, wherein the client includes client-side logic configured to perform the two-way asynchronous communication with the web server.

7.   (Original) The method of claim 6, wherein the client-side logic is pre-installed on the client.

8.   (Original) The method of claim 6, wherein the client-side logic is dynamically delivered to the client from the web server.

9.   (Previously presented) A system for enabling two-way asynchronous communication between a client and a web server to occur within a single HTTP transaction, the system comprising:

    means for opening one socket connection between the client and the web server;

    means for communicating an HTTP request from the client to the web server

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over the one socket connection as part of the single HTTP transaction, wherein the HTTP request is a request for the web server to initialize a CGI that operates within or in conjunction with the web server;

means for initializing the CGI after the web server receives the HTTP request from the client;

means for executing operations of the CGI after the CGI has been initialized, wherein the operations are configured to enable the two-way asynchronous communication between the client and the web server to occur over the one socket connection and wholly within the single HTTP transaction until the operations are terminated by the client or the CGI; and

means for closing the one socket connection after the operations have been terminated;

wherein the two-way asynchronous communication between the client and the web server over the one socket connection and wholly within the single HTTP transaction allows for sending of particular information from the web server, said particular information and said information communicated in a protocol other than HTTP; and

wherein the web server is able to send the particular information to the client without receiving a request from the client for the particular information.

10. (Previously presented) The system of claim 9, wherein the means for executing operations includes means for receiving and processing data from the client.

11. (Previously presented) The system of claim 10, wherein the data is compliant with the HTTP protocol or a protocol other than HTTP.

12. (Previously presented) The system of claim 9, wherein the executing means includes means for creating and communicating data from the CGI to the client.

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13.   (Previously presented) The system of claim 12, wherein the data is compliant with the HTTP protocol or a protocol other than HTTP.

14.   (Previously presented) The system of claim 9, wherein the communicating means includes client-side logic configured to perform the two-way asynchronous communication with the CGI.

15.   (Previously presented) The system of claim 14, wherein the client-side logic is pre-installed on the client.

16.   (Previously presented) The system of claim 14, wherein the client-side logic is dynamically delivered to the client from the web server.

17.   (Previously presented) The system of claim 16, wherein the client-side logic is delivered in the form of a Java™ applet.

18.   (Previously presented) The system of claim 16, wherein the client-side logic is delivered in the form of Macromedia Shockwave movie.

19.   (Previously presented) The system of claim 9, wherein the CGI is a servlet.

20.   (Previously presented) A method for enabling two-way asynchronous communication between a client and a web server to occur within a single HTTP transaction, the method comprising:

a)   opening, by the client, one socket connection to the web server;

b)   communicating an HTTP request from the client to the web server over the one socket connection as part of the single HTTP transaction, wherein the HTTP request is a request for the web server to initialize a CGI that operates within or in

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conjunction with the web server;

c) initializing, by the web server, the CGI after receiving the HTTP request from the client;

d) executing, by the CGI after the CGI has been initialized, operations to enable the two-way asynchronous communication between the client and the web server to occur over he one socket connection and wholly within the single HTTP transaction;

e) closing, by the web server, the one socket connection after the CGI has been terminated;

wherein the two-way asynchronous communication between the client and the web server over the one socket connection and wholly within the single HTTP transaction allows for sending of particular information from the web server to the client and for sending of information from the client to the web server, said particular information and said information being communicated in a protocol other than HTTP; and

wherein the web server is able to send the particular information to the client without receiving a request from the client for the particular information.

21. (Previously presented) A system for enabling two-way asynchronous communication between a client and a web server to occur within a single HTTP transaction, the system comprising:

means for opening one socket connection between the client and the web server;

means for communicating an HTTP request from the client to the web server over the one socket connection as part of the single HTTP transaction, wherein the HTTP request is a request for the web server to initialize a CGI that operates within or in conjunctions with the web server;

means for initializing the CGI after the web server receives the HTTP request from the client;

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means for executing operations of the CGI after the CGI has been initialized, wherein the operations are configured to enable the two-way asynchronous communication between the client and the web server to occur over the one socket connection and wholly within the single HTTP transaction, the means for executing configured to repeat at least one of the operations until termination of the CGI by the client or the CGI; and

means for closing the one socket connection after the CGI has been terminated;

wherein the two-way asynchronous communication between the client and the web server over the one socket connection and wholly within the single HTTP transaction allows for sending of particular information from the web server to the client and for sending of information from the client to the web server, said particular information and said information communicated in a protocol other than HTTP; and

wherein the web server is able to send the particular information to the client without receiving a request from the client for the particular information.